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The Image as Historical Source or: Grabbing Contexts

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Abstract: Displaying images on computer screens is one of the more spectacular types of demonstration available. Besides being spectacular, such systems hold, however, quite some promise for the handling of a type of source which by its great variability proved to be quite elusive for formal, but not only for formal analysis in recent years. The author paper tries to summarize recent developments and argues, that the important potential of image processing, as far as research is concerned, is not in the area of retrieving and displaying images, but in improved possibilities for a more intersubjective way of analyzing them.

The use of computers for the description, the documentation, the analysis, the storage and retrieval of images in the historical disciplines has been increasing during the last decade. If we, e.g., compare the volumes having been published by the Scuola Normale Superiore at Pisa in cooperation with the Getty Trust, Los Angeles, between 1978 and 1988 (1), we obviously are confronted with quite a rapid development taking place in very different fields of the humanities. We are also confronted with very different aims of such projects and with different methods used for dealing with images with the help of computers. Therefore, it should be emphasized that today we cannot talk any more about *'the* use of computers to access pictures<.

I do think that we are going to reach a point where the different projects, aims and methods have got so numerous and have been going so many different ways that it is getting harder and harder to be able to cover them all under one title or even to compare them. Starting from the aim of documentation and catalogization in museums to art historical research (2) to many other fields of historical research (the history of medicine, legal history, history of everyday life, history of mentalities etc.) a

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wider scope of different project tries to access images by creating databases of different size, format, structure and contents. We have reached a kind of specialization that we, as I think, often have to confess that dealing with the efforts of others only seems to be fruitful if we concentrate on those projects which are similar to ours - in their aims, their methods or their source material. The time has gone by in which we were or better had to be interested in everything which took place in the field of >Computers and Images< in the humanities.

We mainly have to distinguish between databases of generally two different types of approach,

- on one side the >catalogues< with their main aim of documentation, being based on the material of certain collections, regions, periods etc., containing main categories of art historical description in a standardized format, sometimes with access to a videodisk, more seldom to a corpus of digitalized images. Many of them offer thesauri based on more or less standardized terminology and - in very different proportions - possibilities to access the iconographical contents of the images. I just would like to mention the largest project in the German speaking countries of the »Deutsches Dokumentationszentrum für Kunstgeschichte« at Marburg (MIDAS). (3);
- on the other side, particularly those projects working in other fields of the historical disciplines than art history often do have additional aims which leave the field of mere documentation and try to make the database a real tool of research, insofar as, e. g.,
  - they contain very specialized and detailed descriptions of certain parts of the iconographic contents of the images;
  - they try to cope with the necessity to create a connection between the database containing information about images and such created from written sources. To make this possible, the contents of the images have to be treated in another way than in many art historical projects;
  - they use database management systems providing them with necessary possibilities concerning the retrieval of contents *and* context (relations, hierarchies, semantic networks), offering possibilities for statistical analysis and/or for the integration of the images themselves into the research process.

Pictorial sources must be more than media to illustrate the word of today's historian. They certainly also are more than an object, of which art history gets its legitimation. They are sources for the historian, opening a wide field of interpretation, of new aspects and of additional information to written sources. This, e.g., particularly is true for a history of daily life and material culture of the Middle Ages, a field, in which the institution I

corne from, is specialized. Documentation and description of the contents of pictorial sources to be used by historians of daily life certainly is very different from such done by curators of museums or by art historians. Certainly, all of those descriptions have to contain information like artist, date, title, provenance, place where the object is kept etc. The >iconographical< description, though, must be much more accurate and detailed for a field of research also being interested, to put it rather extremely, in the development and use of chamber-pots or of cooking-utensils.

Creating a data base containing information out of written sources is quite different from developing one being based on pictorial sources. (4) Dealing with written sources, we more or less concentrate on the terminology of the source. We can decide, if we want to do full-text analysis or if we use only certain information of the sources in a standardized way. This makes it at least feasible to keep the records as close to the primary source as possible or practicable. Using verbal descriptions of pictorial sources we never have the opportunity to deal with anything like original source-information or full-text. We are creating our own text. Nevertheless, we have to provide means to do the documentation and description as accurate and standardized as possible to guarantee another kind of closeness to the source and to cope with the connection of contents and context as far as possible. We also have to be aware of many limits which always make it necessary to go back to the image itself in the way of our analysis.

At the »Institut für mittelalterliche Realienkunde Österreichs« (5) of the Austrian Academy of Sciences, for more than ten years now a computer-supported project has been running to collect and analyse medieval pictorial sources of mainly Austrian provenance with regard to their contents of information on daily life and material culture. (6) A continuously growing photo- archive of now more than 20.000 b/w photos and colour slides (including all detail photos) represents the basis for our investigations. Nevertheless, compared to large art historical collections, the source basis is still rather small which has to be stressed for our further argumentation.

Every verbal description of images must have its limits. And it certainly is a very long way with many modifications of methods and concepts to reach a point at which you can more or less be satisfied with the reached standard. Nevertheless, there always must be efforts to overcome those restrictions and limits given by the verbal descriptions of pictorial sources. Therefore, the possibilities of the integration of the images themselves into the database is to be seen as another and additional means to open new ways to cope with closeness to the source, with the connection of contents and context and with the problems of reconstructing the >patterns of inten tion< of images (7)

Starting from such considerations we began thinking about the storage of the images about two years ago, were first nearly convinced by the

analog way and its possibilities to get a very quick approach to the images described in the text database and to cope with large quantities, having all the images of our archive on one videodisk. But then we decided to go the digital way which means that for about one year now we have been testing the possibilities of digital image processing with a very small amount of about twenty digitalized images, not knowing when these tests will be finished with a really satisfying result. In these tests neither the quantity of stored images nor their quality are of major relevance, but the question and handling of the manipulation of the images. That means that we started testing the possibilities of image manipulation as a further means to overcome some of the given limits of the verbal descriptions - and we set the mass production of the storage of all images on a waiting list.

What could we reach and what may we further expect of the integration of the images into our database?

The possibility to get the image on one screen and on the other one (or on the same) our verbal description of this image or the result of some retrieval process may be practical, may look nice, certainly offers new possibilities for the exchange of data, but we certainly have to go beyond this point. To trivialize: Only to have a beautiful picture on the screen helping you to reduce the miles you have been walking between your machine and your slide-archive, must not be enough. - But at this point the analog way more or less ends. (8) In using the possibilities of manipulating the images, though, we can try to come nearer to their >patterns of intention< in quite a number of aspects. We may come a step nearer to the connection between images and their beholders, to the response which images have been offering their recipients. »We must consider not only beholders' symptoms and behavior, but also the effectiveness, efficacy, and vitality of images themselves; not only what beholders do, but also what images appear to do; not only what people do as a result of their relationship with imaged form, but also what they expect imaged form to achieve, and why they have such expectations at all» (9)

»What images appear to do« takes place in the way of certain structures and patterns, often not at once to be recognized by today's historian, often very difficult to be described in verbal form. But a connection between the verbal descriptions by the historian and the imaged form may be going to lead us to new and further possibilities for our interpretation of such patterns and structures which were supposed to influence the reaction and behavior of the recipients of pictures. To cope with those phenomena we have to go beyond the mere immediate image retrieval and the administration of image databases offered by digital image processing:

- We may make use of the possibilities of image enhancement by different filter operations which, though, often seems to be more relevant for historians dealing with unreadable text;

- Transformations and filter operations are taking us nearer to certain aspects of the imaged form being relevant for our analysis, may it be - seen from our concentration of research on everyday life - medieval shoes, their alterations and modifications in the pictorial source or the keys depicted in panel paintings of the fifteenth century etc. Getting such certain imaged forms out of their context, using possibilities to store those >patterns< and make them available for further comparisons without loosing the connection to the verbal descriptions in the textual parts of the database often seems to be of decisive help for our investigations. In the moment, that certainly has nothing to do with any kind of pattern recognition. But, from the viewpoint of the historian's analysis, it is supposed to make the way to the use of pattern recognition routines easier, when - from the technical side - practical solutions will be available in the future. And it certainly helps to make the mind of the historian much more open to a discussion about possibilities to determine anything like schematic structures of (medieval) images and their effect on the communication between image and beholder.
- Besides getting imaged forms out of their context, possibilities also will be available to place them much tighter in their context as verbal description or documentation usually can provide. Fixing, e.g., the surroundings and/or >neighbours< of one object in the image - by the definition of a certain distance as >near< etc. - and further comparisons may certainly lead to new results concerning the relation of certain parts of the contents of images. In the same way the relation of certain given objects (based on their distance) might be useful for further analysis (e. g. attribute A of Virgin Mary and her attribute B)

Those and other related routines represent the most relevant possibilities of digital image processing as part of the research process of the historian in the future, as we can see them today. Reduced to one slogan, we are offered new methods and ways for *grabbing contexts* in a number of different ways. It may take us nearer to the effectiveness, efficacy and vitality of images, give us a new hints about the relationship of image and beholder and make images a much more important source than they still often seem to be today. Their role as mere illustration will - hopefully - become a matter of a not very distant past.

Notes

(1) Cf. Automatic Processing of Art History Data and Documents, papers, 2 vols., proceedings, 1 vol., edd. L. Corti, M. Schmitt. Pisa, Los Angeles, 1984; Census. Computerization in the History of Arts, 1, ed. L. Corti. Pisa, Los Angeles, 1984; SN/G: Report on Data Processing Projects in Art. Pisa-Los Angeles 1988, ed. L. Corti.

(2) Cf. Michael Greenhalgh, Databases for Art Historians: Problems and Possibilities. In: History and Computing, ed. P. Denley and D. Hopkin, Manchester 1987, 156-167.

(3) Cf. Lutz Heusinger, MIDAS - Ein System zur EDV-gestützten Katalogisierung und Indexierung kun st geschichtlicher Sachverhalte, München etc. 1988.

(4) Concerning this and the following, cf. Jaritz, >Towards standards of very different materials: problems of standardization in EDP-supported research in the material culture of the Middle Ages<, Standardisation et échange des bases de données historiques, ed. J.-Ph. Genet, Paris 1988, 153-160.

(5) See Helmut Hundsbichler, >Approaches to the Daily Life in the Middle Ages. Methods and Aims of the »Institut für mittelalterliche Realienkunde Österreichs<«, Medium Aevum Quotidianum-Newsletter, 1 (1982), 19-25.

(6) See Manfred Thaller, >Descriptor. Probleme der Entwicklung eines Program m system s zur computerunterstützten Auswertung mittelalterlicher Bildquellen<, Europäische Sachkultur des Mittelalters (Veröffentlichungen des Instituts für mittelalterliche Realienkunde Österreichs 4 = Sb. Ak. Wien, phil.-hist. Kl. 374) Wien 1980, 167-194; Gerhard Jaritz, >Daily Life in the Middle Ages, Iconography of Medieval Art and the Use of EDP<, Historical Social Research 21 (1981) 43-55; idem, >EDV-Anwendung in der Ikonographie des Mittelalters<, Bericht über den fünfzehnten österreichischen Historikertag (Veröffentlichungen des Verbandes Österreichischer Geschichtsvereine 23) Wien 1984, 373-384; Elisabeth Vavra, Möglichkeiten einer EDV-unterstützten Auswertung mittelalterlicher Bildquellen<, Beiträge zur Überlieferung und Beschreibung deutscher Texte des Mittelalters (Göppinger Arbeiten zur Germanistik, 402) Göppingen 1983, 43-55.

(7) Cf. Michael Baxandall, Patterns of Intention. On the Historical Explanation of Pictures. New Haven and London 1986.

(8) For an argumentation on analog and digital image storing, cf. Michael Greenhalgh, >Graphical Data in Art History and the Humanities: Their Storage and Displays History & Computing 1 (1989) 121-134.

(9) David Freedberg, The Power of Images. Chicago and London 1989, xxii.